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EXPORT, IMPORT AND ECONOMIC GROWTH IN INDIA: A STUDY

Jyoti Kumari*

ABSTRACT

Export and Import are very crucial part of our international trade and *have always been so in the* past. Export helps the country to earn dearer foreign exchange which supports imports and this promotes the economic growth. This study is carried out to investigate the linkage between exports, import and GDP at factor cost at constant price in India for the period post liberalization from 1991-92 to 2012-13. It is analyzed *how* exports and imports contribute to the economic growth of India. This study found that imports must be supported by exports to *achieve* continuous growth in the economy. Export *tends to have a* positive influence on economic growth by keeping import constant but import *negatively influences* economic growth by keeping export constant.

Key Words: Export, Import, Economic Growth (Gross Domestic Product-GDP), Indian Economy

INTRODUCTION

No country in the world can produce each and everything by itself this is because nature has not gifted each and every country with same productive resources. Hence each and every country has to depend upon international trade to fulfill the requirements of *its' people*. *International trade has been defined as the activity of buying (import) and selling (export) of goods and services among nations of the world Hai (2009)*. Rathore & Rathore (1996) stated that international trade consists of trade among residents of different countries. There are various theories on emergence of international trade like classical theory, mercantilism theory, absolute

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cost advantage theory, comparative cost advantage theory and factor endowment theory. Among these, the best theory is the theory of factor endowment developed by two Swedish economists Eli Heckscher and Bertil Ohlin who investigated that the difference in commodity prices is the prompt reason for the emergence of international trade. According to them prices of commodity differs due to difference in the supply of factors of production in different countries. Instead of all the theories of emergence of international trade, there was wisdom that imports are harmful and exports are beneficial. ***This misperception prevailed*** in India in the late 1950s and 1960s in which more emphasis was given on the strategy of import substitution and export promotion. But in the 1970s and 1980s there was drastic change in the thought of development policy, in which import substitution was disregarded and importance was given to export promotion. Although this change was in dilemma, in 1990, this dilemma was cleared off due to force from the International Monetary Fund, the World Bank (the Bretton Woods institutions) and the U.S. government in the repercussions of 1980s debt crisis. Finally, India moved on the path of economic reform in 1991.

International trade helps nations in attaining new heights of success as it helps in increasing production, technological expansion, effective utilization of resources, international specialization, availability of variety of goods and services, enhance living standard, earn foreign exchange reserves, promotes economic growth and assist country in attaining self-reliance. This study is carried out to investigate the linkage between export, import and Gross Domestic Product (GDP) at factor cost at constant price with the help of simple correlation and regression tests. It is analyzed that how exports and imports contribute to the economic growth of India.

Role of Export and Import on Economic Growth

At world level, various studies have been conducted with the help of various statistical tools establishing relationship among trade, Foreign Direct Investment, productivity, economic growth etc. Export and import play a very vital role in growth of any economy. Enhanced exports help the country to expand the scale of production to gain economies of scale, to produce qualitative and quantitative products and assist the economy to earn foreign exchange reserves which in return assist in import of technology, capital and scarce raw material which increases international competitiveness and strengthen the bargaining power. Awokuse (2003) emphasized on the export-led growth (ELG) approach and stated that the idea behind the export-

led growth is that enhanced exports increases the investment and production capacity which further boost up the productivity and leads to effective and efficient utilization of resources and improves international competitiveness. Also according to Keynesian theory, export is an important component in the determination of national income hence increased exports affects economic growth directly and positively. Evans (1989) stated that international trade is an engine for the economic growth according to Adam Smith the father of Economics. Various literatures have been reviewed to focus on the role of export and import on economic growth.

Abhayaratne (1996) worked on the hypothesis that foreign trade encourages economic growth in Sri Lanka for the period 1960-1992 by applying causality and co-integration techniques. But he found that economic growth is not stimulated through foreign trade. Hence in his study he fails to find any positive relation between foreign trade and economic growth. But in the case of Taiwan, studies found that mutual support of exports and economic growth. Biswal & Dhawan (1998) tested the hypothesis of export-led growth for Taiwan by applying Engel and Granger's co-integration and error correction model for the period 1960-1990. Their study found the existence of bidirectional causality and co-integration of total exports and GDP as well as exports of manufactured goods and GDP. They concluded the mutual reinforcement of exports and economic growth in Taiwan. Exports and industrial production both are mutually linked positively and enhance the production capacity through import of technology, capital and resources. Dhawan & Biswal (1999) re-examined the hypothesis of export-led-growth by using a vector Auto regression (VAR) model with the help of three variables real GDP, real exports and terms of trade in India for the period 1961-93. They used Johansen's selection model and procedure of maximum likelihood co-integration in multivariate framework analysis. They suggested the existence of long-run equilibrium relationship among these three variables and causal relationship exists between export growth to GDP growth and terms of trade in short run. They submitted that the export promotion strategies implemented in India may lead to future growth. The commercial policy of India work on the basis of two strategies i.e. exports promotion and import substitution and this study suggested that these strategies will give long run benefit to India.

Liu *et al.* (2002) examined the Casual relationship between economic growth, trade and FDI in China through multivariate Granger Causality tests in a co-integration

framework applied to the quarterly data from 1981 to 1997. In their study they tested the integration properties of the data, then Johansen procedure had been employed to detect the number of co-integrating vectors and then tested causality in the resulting VARECM framework. The study found that there are two-way causal links exists between economic growth, FDI and exports with quite feebler indication of response from imports to the other three. This study also concluded that failure to account for interface among FDI, economic growth, export and import can cause bogus results in the study of the relationship between among these four variables. Zang & Baimbridge (2012) studied the causality among real export, import and GDP through VAR model for Japan and South Korea. They concluded the existence of long run stable position among three co-integrated variables for both countries, proofed the bidirectional causality between economic growth and imports for both countries. They investigated export-led growth in Japan while negative effect of GDP growth on export growth in South Korea.

Turkeli *et al.* (2013) reviewed the empirical literature and explored the relations between trade openness and economic growth in the group of five countries by applying qualitative comparative analysis. They suggested that underdeveloped countries must follow the protectionist policies against international trade to foster economic growth while developed countries can follow high degree of trade openness. They stated that foreign trade policy plays a very dominant role in fostering economic growth in developing countries. They analyzed the positive impact of tariff applied to manufactured goods on economic growth while negative impact of tariff applied to primary goods as it negatively affect the production capacity of the economy.

An import also plays an inherent role in boosting up the economic growth of the country. By importing goods that are costlier to produce in home country, country not only save cash but time also and can indulge themselves in the production of goods and services needed for exports. Import of scarce resources, technology, services of experts etc. can help the country to produce goods and services of international standards. But these imports have to be paid for, and that becomes possible due to exports. Boltho (1996) showed the importance of exports as exports facilitate the economy to earn foreign exchange which gives an opportunity to import mandatory technology, capital, raw material, intermediate goods and energy. It also aids to economic growth by generating excess supply. Emery (1967) emphasized on

the importance of imports as it is through import of capital goods, techniques and methods of production, etc., the competence and effectiveness of firms and industry increases which contributes to the economic growth. Dornbusch (1992) studied the economy of Korea where he found that the import level of automobile engines detonated which was earlier imported then produced under license and now it was produced under the full control of Korean. In this way imports helps in fulfilling the strategy of import substitution. Also imports support exports as Koopman *et al.* (2008) emphasized on the importance of imports for exports as import of intermediate part with exemption of tariff and subsidies from local and central government can help in enhancing exports. OECD (2010) focused on the significance of imports as it improve firm productivity and export competitiveness. He emphasized that trade consists of both imports and exports and both are helpful for countries, firms, individual and growth in trade will add to overall economic performance.

There is normal confusion that imports cost the job opportunity. This misperception was removed in the study of Scissors *et al.* (2012) who studied the economy of America and stated that imports supports job not cost jobs. He emphasized that import creates jobs in various fields like retail, wholesale, transportation, manufacturing, finance, construction and numerous other activities. Hence every scholar and researcher had their own perception on the impact of export and import and their contribution in the GDP of the various developing and developed countries.

OBJECTIVES OF THE STUDY

- i. To Study relationship between export and GDP in India
- ii. To study relationship between import and GDP in India
- iii. To study the impact of export and import on GDP in India.

Collection of Data

This study is carried out to establish relationship between export and GDP, import and GDP and influence of export and import on GDP at constant price. Among these three variables, export and import were taken as independent variable and GDP as a dependent variable. This study is based on secondary data. Data was collected from various authentic websites like websites of RBI, Directorate General of Commercial Intelligence and Statistics (DGCI & S) and Central Statistical Organization (CSO). Data are collected for the period between "1991-92" to "2012-

13". The import and export data are denoted in Rs. Crores and data of GDP is taken at factor cost at 2004-05 prices (constant price) which represents the economic growth of India. The analysis of data is done with the help of SPSS and based following techniques:

Simple Correlation: To establish the relation between export and GDP and Import and GDP Bivariate correlation technique is used.

Multiple Regression: To analyze the impact of export, import on GDP of India linear regression technique is applied.

Table 1: Relationship of Export, Import and GDP in India(Rs.in Crores)

Year	Export	Import	GDP
1991-92	44041.81	47850.84	1367171
1992-93	53688.25	63374.52	1440504
1993-94	69751.39	73101.01	1522344
1994-95	82674.11	89970.66	1619694
1995-96	106353.34	122678.14	1737741
1996-97	118817.08	138919.68	1876319
1997-98	129277.69	154176.28	1957032
1998-99	139753.14	178331.85	2087828
1999-00	159561.76	215528.04	2246276
2000-01	203571.00	230872.75	2342774
2001-02	209017.96	245199.71	2472052
2002-03	255137.26	297205.86	2570690
2003-04	293366.74	359107.61	2777813
2004-05	375339.51	481371.53	2971464
2005-06	456417.85	574190.89	3253073
2006-07	571779.27	840506.30	3564364
2007-08	655863.51	1012311.69	3896636
2008-09	840755.05	1374435.37	4158676
2009-10	845533.63	1363735.54	4516071
2010-11	1142921.91	1683466.95	4937006
2011-12	1465959.39	2345463.23	5243582
2012-13	1634318.83	2669161.95	5503476

Source: RBI, CSO, DGCI&S

RESULTS AND FINDINGS

Relationship between Export and GDP in India

To study the relation between export and GDP in India there are two hypotheses:

Null Hypothesis (H₀): There is no satisfactory significant correlation between exports and GDP in India.

Alternative Hypothesis (H₁): There is satisfactory significant correlation between exports and GDP in India. **GDP = f (Export)**

Table 2: Correlations

		EXPORT	GDP
EXPORT	Pearson Correlation	1	.968**
	Sig. (2-tailed)		.000
	N	22	22
GDP	Pearson Correlation	.968**	1
	Sig. (2-tailed)	.000	
	N	22	22

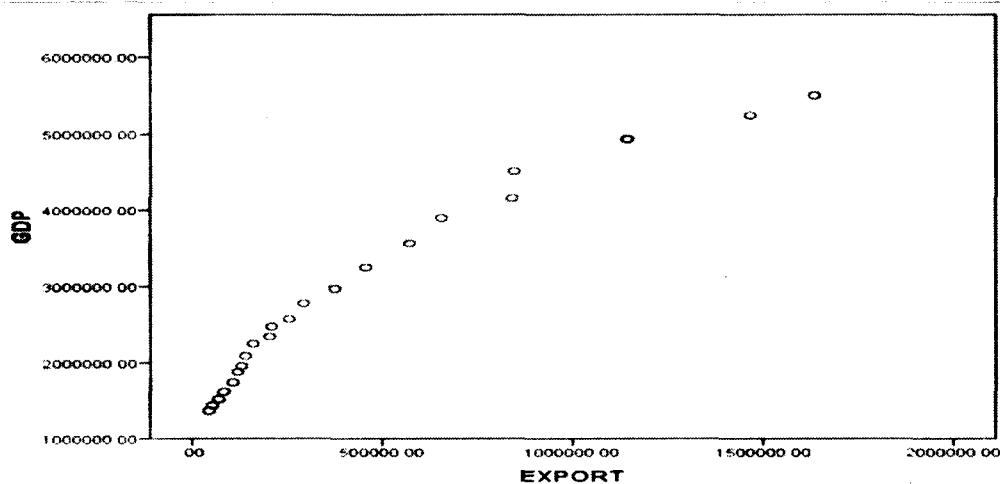
** Correlation is significant at the 0.01 level (2-tailed).

Findings

By applying Pearson Coefficient of Correlation (r) between export and GDP, we get positive value of r equals to 0.968 which is between +0.75 to +1, shows that there is high degree of positive correlation between these two variables. Hence the direction of correlation is positive which means with increase or (decrease) in exports, there would be increases or (decrease) in the GDP.

The arbitrary boundary for strong and weak correlation is the value 0.3. Here the value is 0.968 which is more than 0.3, shows that there is strong relation strength between these two variables. The strength of correlation can be checked with the help of scatter diagram. In this diagram we keep the independent variable on x-axis (Export) and dependent variable (GDP) on y-axis.

Diagram 1: Scatter Diagram of Export and GDP



This scatter diagram shows that there is high degree of strong and positive correlation between export and GDP because all points are going from lower left to upper right showing strong and positive relation but all the points are not in single straight line shows that there is high degree of correlation ($r = 0.968$) not the perfect degree of correlation (where $r = 1$).

Testing of Hypothesis

Significance 2 tailed gives us the p value (probability value) 0.000 which is less than 0.05 ($p < 0.05$), therefore we reject the H0 and accept the H1.

Hence we conclude that there is enough evidence to say that there is statistically significant correlation between these two variables.

Relationship between import and GDP in India

To study the relation between import and GDP in India there are two hypotheses:

Null Hypothesis (H0): There is no satisfactory significant correlation between imports and GDP in India.

Alternative Hypothesis (H1): There is satisfactory significant correlation between imports and GDP in India.

$$\text{GDP} = f(\text{Import})$$

Table 3: Correlations

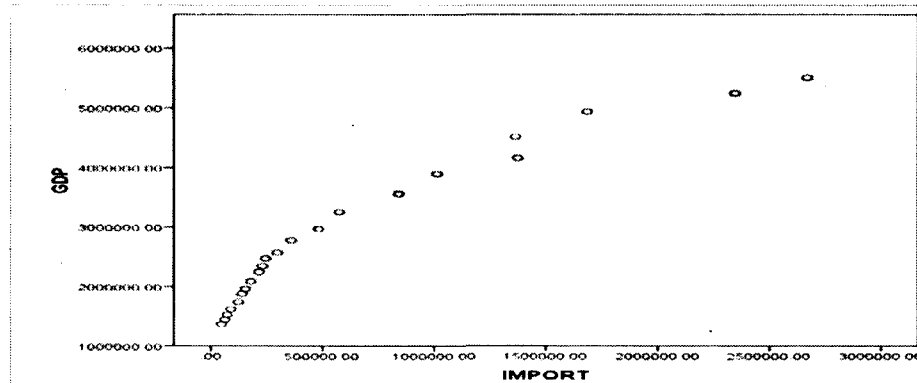
		IMPORT	GDP
IMPORT	Pearson Correlation	1	.958**
	Sig. (2-tailed)		.000
	N	22	22
GDP	Pearson Correlation	.958**	1
	Sig. (2-tailed)	.000	
	N	22	22

** . Correlation is significant at the 0.01 level (2-tailed).

Findings

By applying Pearson Coefficient of Correlation (r) between import and GDP, we get positive value of r equals to 0.958 which is between +0.75 to +1, shows that there is high degree of positive correlation between these two variables. Hence the direction of correlation is positive which means with increase or (decrease) in imports, there would be increases or (decrease) in the GDP.

The arbitrary boundary for strong and weak correlation is the value 0.3. Here the value is 0.958 which is more than 0.3, shows that there is strong relation strength between these two variables. The strength of correlation can be checked with the help of scatter diagram. In this diagram we keep the independent variable on x-axis (Import) and dependent variable (GDP) on y-axis.

Diagram 2: Scatter Diagram of Import and GDP

This scatter diagram shows that there is high degree of strong and positive correlation between import and GDP because all points are going from lower left to upper right showing strong and positive relation but all the points are not in single straight line shows that there is high degree of correlation ($r = 0.958$) not the perfect degree of correlation (where $r = 1$).

Testing of Hypothesis

Significance 2 tailed gives us the p value (probability value) 0.000 which is less than 0.05 ($p < 0.05$), therefore we reject the H_0 and accept the H_1 .

Hence we conclude that there is enough evidence to say that there is statistically significant correlation between these two variables.

Impact of Export and Import on GDP in India

To study the impact of export and import on GDP in India, regression technique is used. It is based on two hypotheses:

Null Hypothesis (H_0): There is no supported relationship between independent variable (Export and Import) and dependent variable (GDP) in India.

Alternative Hypothesis (H_1): There is supported relationship between dependent and independent variable in India.

$$\text{GDP} = f(\text{Export}, \text{Import})$$

$$\text{i.e. } \text{GDP} = \alpha + \beta_1 \text{mExport} + \beta_2 \text{mImport} + e$$

Where,

α = intercept (constant)

β_1 = regression coefficient of Export

β_2 = regression coefficient of Import

e = error term

Results: Regression

Regression output gives us four tables.

Table 4: Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	IMPORT, EXPORT ^a		Enter

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.976 ^a	.953	.948	2.95875E5

Table 6: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.352E13	2	1.676E13	191.466	.000 ^a
	Residual	1.663E12	19	8.754E10		
	Total	3.519E13	21			

a. Predictors: (Constant), IMPORT, EXPORT

b. Dependent Variable: GDP

Table 7: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1483983.240	126901.925		11.694	.000
	EXPORT	7.829	2.077	2.825	3.769	.001
	IMPORT	-3.141	1.265	-1.861	-2.483	.023

a. Dependent Variable: GDP

Table 4 shows the independent variable (Export and Import) that is used to predict the dependent variable (GDP).

Table 5 gives us the value *R* and *R*². The most important value is the *R*² = .953 when translated into percentage means 95.3 %; shows that Export and Import accounts for 95.3 % of variation in GDP. Hence this shows that only 4.7% variations in GDP are due to some other reasons.

Table 7 shows the constant value (α) i.e. intercept value equals to 1483983.240 in the regression coefficients this tells us that if both Export and Import are fixed at zero, the GDP would be 1483983.240.

The regression coefficient of export is 7.829, shows that with increase in Export by 1, the GDP or Economic Growth goes up by 7.829 by keeping influence of Import constant. The coefficient -3.141 showed that by keeping the influence of Export constant, GDP or Economic Growth decreases by -3.141 as Import increases by 1.

Testing of Hypothesis

Significance gives us the ‘p’ value (probability value) 0.01 for Export and 0.023 for Import which is less than 0.05 ($p < 0.05$), therefore we reject the *H*₀ and accept the

H1.

Hence we conclude that there is enough evidence to say that there is statistically significant relation among these variables. Also value of (.953) shows that 95.3% of Economic growth is explained by Export and Import.

INTERPRETATION& CONCLUSION

With the help of the above findings, it can be interpreted that both Export and Import are positively correlated with the economic growth and has an impact on GDP in India but Export has positive and greater influence than Import as beta value of Export (7.829) was greater and positive than beta value of Import (-3.141). It can also be inferred that Import and GDP has negative relation in the absence of Export. Hence for continuous growth in the economy it is necessary that imports must be supported by export then only there will be prosperity in the economy and positive and significant relationship between export, import and Economic Growth (GDP).

Export and Import are very crucial part of our international trade and were in focus from past. Export helps the country to earn dearer foreign exchange which supports imports and this promotes the economic growth. Export is an engine of economic growth but export without import is not effective and successful similarly imports in the absence of export will give negative influence on the economic growth of India. As we seen in the study that export and import both influence the economic growth of India but export has positive and significant influence even when imports are kept constant but when exports are kept constant than imports has negative influence on the economic growth of India. Hence, it can be concluded that although export has positive influence on the growth of economy as against the import but export and import together will bring drastic changes in the sustained economic growth because both import and export has high degree of positive and significant correlation with GDP (Economic Growth). In this direction the commercial policy of the government can play effective role in achieving sustained economic growth.

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